REMARKS/ARGUMENTS

We wish to thank the Examiner for the attention given to the present application.

Claims 1, 4 and 7 have been amended with this response to better define Applicant's invention over the cited prior art. In particular, the claims have been amended as they relate to the Voice Security Token (VST) to better describe the VST in light of the prior art as pointed out by the Examiner. Claims 1-9 have been further amended with regard to form. Claim 4 has also been amended to better define Applicant's invention in the form of a system claim.

In addition, the Abstract of the Disclosure has been amended to conform to the claim amendments, and the Detailed Description section has been amended to correct two minor typographical errors. Figure 1 has also been amended to conform to the amendments made to claim 1.

It should be noted that care has been taken to avoid the inclusion of any new subject matter. These amendments are supported by Applicant's specification and drawings as originally filed.

Applicant will now turn to the Examiner's rejection of claims 1-9 as set out in the Official Action as being obvious in light of Computer Telephony Integration (CTI) and Huang et al, hereinafter referred to as Huang.

Computer Telephony Integration (CTI)

As the name implies, CTI merely describes the convergence of computer systems and telephone systems. The concept of using CTI systems for authenticating verbal transactions would require manually listening to lengthy audio files for the offer and acceptance components and further accepting that these files are authentic. No sense of security or peace of mind is provided to either buyer or seller with respect to the authenticity of the transaction recording itself.

As discussed in Applicant's background art:

"For calls of long duration, portions of contractual terms and conditions and acceptance of terms and conditions can be captured using Computer Telephony Integration (CTI) systems. However, because of the high costs involved in capturing, storing, and retrieving the correct information from data files, the utilization of CTI systems tends to be limited to less frequent transactions of a higher value. Furthermore, either buyer or seller can easily challenge the authenticity of these non-secure files."

Huang et al.

Turning now to Huang, Huang describes the classical voice verification process where the intent is to verify the identity of a speaker by comparing a sample of their speech to a previously stored voiceprint. The process involves enrolling a user, gathering a number of samples of their speech, and then converting this speech to a voice template or print. Any subsequent voice sample is then used to attempt to verify a user's identity by converting the speech sample to a voiceprint and comparing the new print to the stored print using a mathematical model.

Huang's particular method extracts a limited number of voice frames having a minimum threshold of energy within them, detecting time-varying characteristics in these frames, and adding frame labels for each extracted frame.

By contrast, Applicant's invention is directed to the provision of a verifiable voice security token (VST) to a buyer and a seller for use in subsequent verification in cases where a dispute arises with respect to the terms of a voice transaction. The types of transactions involved are electronic voice transactions transmitted over voice communications links such as standard POTS (Plain Old Telephone System), or computer networks using technology such as Voice-over-Internet-Protocol (VoIP) devices and the like.

The VST is a condensed representation of the original audio file of the transaction, providing a unique identifier to a specific verbal agreement or contract. The VST provides a fingerprint of the voice transaction and ensures the terms of the transaction that were originally agreed upon at the time have not been modified. The VST identifies both parties, the time and date, and the terms of the offer and acceptance.

The core function of the VST is to ensure the authenticity and originality of a digitally recorded audio file. Once an audio file is recorded it is processed using a VST algorithm to produce the VST. Should the original audio file be altered in any way, upon processing the file again using the VST algorithm, a noticeably different VST will be created. Thus, the VST provides an assurance that an audio file has not been altered or manipulated after its original recording.

Huang performs verification in a different manner, using different underlying technology for differing purposes. Huang is concerned only with authorizing a voice pattern to verify a users voice from a previously established voice model file. This is impractical in the field of online transactions since the user in Huang's method must have been pre-registered with the system, and have previously provided a voice sample. This would limit users to established customers only, something highly undesirable in today's fast-paced online business environment. Furthermore, the problem of trust would still exist for the specific recorded transaction file since Huang only samples a limited number of features in a voice file.

By contrast, Applicant's invention ensures the integrity of the entire transaction recording. All the audio data is processed without the filtering-out of any information prior to processing, since the intent is to ensure the file has not changed. The VST process does not attempt to merely identify key features of the speech for speaker verification purposes, but instead processes the entire audio file and pulls out all its features to ensure that any tampering with the audio data can be identified at a later time.

Furthermore, Huang would not have considered the issue of conversion to reduce the sampled data size since they were not concerned with ensuring the integrity of the entire recording. Huang is only interested in sampling a limited subset of recorded voice frames to locate frame features that would be useful in verifying a users voiceprint. Huang would not have been led to such a system and method as Applicant's design, which provides differing features and advantages from those of Huang's design, as previously discussed. Huang is incapable of performing the functions of Applicant's invention, and fails to address the clear advantages in this field provided for by Applicant's system and method.

Applicant's invention is designed to capture a voice transaction and provide subsequent verification of its integrity to all parties involved. Applicant's VST design provides unique and inventive design features and components to achieve effective solutions to the

aforementioned problems of providing a trusted verbal transaction recording. The restrictions and requirements imposed by these issues and the problems inherent with prior art attempts at solutions to these issues have given rise to the various features of Applicant's invention that distinguish it over the prior art.

It is therefore clear that Applicant's independent claims 1, 4 and 7 as amended, together with dependent claims 2, 3, 5, 6, 8 and 9 as amended clearly recite elements not disclosed or suggested by CTI and Huang. Applicant can find no indication of providing a security token that verifies the integrity of a recorded verbal transaction in CTI and Huang. The CTI and Huang methods are incapable of performing the functions or delivering the advantages of providing such a security token.

Based upon the above amendments and remarks, the rejection of claims 1-9 as being obvious having regard to CTI and Huang is respectfully traversed. Applicant fails to see any opportunity to learn the provision of a security token that verifies the integrity of a verbal transaction recording from CTI and Huang, as none is described or implied. Furthermore, Applicant sees no relevance between CTI and Huang, and Applicant's invention in substance, applicability or design, as the features and implementations of each are entirely different.

It is therefore respectfully submitted that, in view of the above remarks and amendments, and having dealt with all of the matters raised by the Examiner, the present invention patentably distinguishes over the prior art. Applicant respectfully requests entry of these amendments and early reconsideration based on the reasons set out above.

If any fees are required by this communication, please charge such fees to our Deposit Account No. 16-0820, Order No. 34223.

Respectfully Submitted,
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Date: November 15, 2004

Amendments to the Drawings:

A replacement drawing sheet is attached which includes changes to Figure 1. This sheet, which includes only Figure 1, replaces the original sheet including only Figure 1. In new Figure 1, the VST generation sub-steps have been added and wording has been changed in order to conform to the claim language of amended claim 1. An annotated sheet showing the changes is also enclosed.

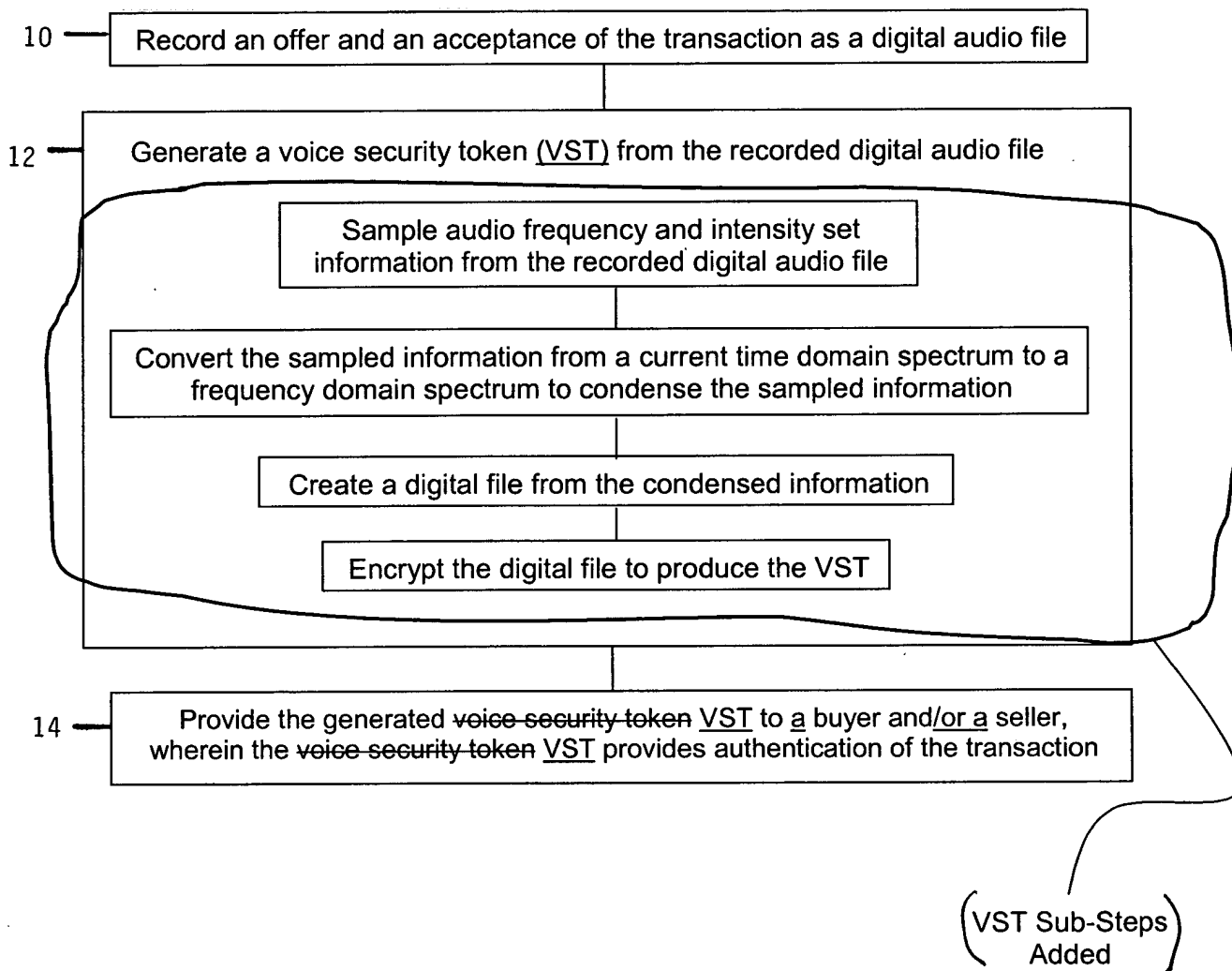Attachments: Replacement Sheet
Annotated Sheet Showing Changes

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10 — Record an offer and an acceptance of the transaction as a digital audio file

12 — Generate a voice security token (VST) from the recorded digital audio file

Sample audio frequency and intensity set information from the recorded digital audio file

Convert the sampled information from a current time domain spectrum to a frequency domain spectrum to condense the sampled information

Create a digital file from the condensed information

Encrypt the digital file to produce the VST

14 — Provide the generated voice security token VST to a buyer and/or a seller, wherein the voice security token VST provides authentication of the transaction

(VST Sub-Steps Added)

Figure 1